

WHAT IS CLAIMED IS:

- 1 1. A communication system, comprising:
2 a first client having a first proxy, a first memory, and a plurality of first
3 processes, the first memory having a plurality of first slots, each first slot being assigned
4 to one of the plurality of first processes and configured to store data to be transmitted or
5 received by the assigned first process; and
6 a server having a second proxy, a second memory, and a plurality of
7 second processes, the second memory having a plurality of second slot being assigned to
8 one of the plurality of second processes and configured to store data to be transmitted or
9 received by the assigned second process,
10 wherein the first proxy and second proxy are configured to form a
11 communication link with the other.

- 1 2. The communication system of claim 1, wherein the first client is a
2 Web server and the server is an executing server, further including:
3 a second client, wherein the second client is a client of the first client.

- 1 3. The communication system of claim 2, wherein the first client is a
2 Web server and the second client is a browser.

- 1 4. The communication system of claim 1, wherein each of the first
2 slots, includes:
3 a first input space to temporarily store data to be transmitted to a
4 destination node via the first proxy, wherein the data is generated by the first process that
5 is associated with the first input space; and
6 a first output space to temporarily store data received from a source node
7 via the first proxy, wherein the data received is directed to the first process that is
8 associated with the first output space.

- 1 5. The communication system of claim 4, further including a plurality
2 of mark devices, each mark device being assigned to one of the first input spaces to
3 indicate whether data can be written into the first input space to which the mark device is
4 assigned and to one of the first output spaces to indicate whether the first output space to
5 which the mark device is assigned contains data received from the source node via the
6 first proxy.

1 6. The communication system of claim 5, wherein each of the second
2 slots, includes:

3 a second input space to temporarily store data to be transmitted to a
4 destination node via the second proxy, wherein the data is generated by the second
5 process that is associated with the second input space; and

6 a second output space to temporarily store data received from a source
7 node via the second proxy, wherein the data received is directed to the second process
8 that is associated with the second output space.

1 7. The communication system of claim 6, further including a plurality
2 of mark devices, each mark device being assigned to one of the second input spaces to
3 indicate whether data can be written into the second input space to which the mark device
4 is assigned and to one of the second output spaces to indicate whether the second output
5 space to which the mark device is assigned contains data received from the source node
6 via the second proxy.

1 8. The communication system of claim 1, wherein there are a
2 plurality of the first clients and a plurality of the servers.

1 9. An communication system, comprising:
2 a plurality of browsers;
3 a plurality of Web servers to handle requests from the plurality of
4 browsers, each Web server having a first proxy, a first shared memory, a plurality of first
5 processes, and a plurality of mark devices, the first memory having a plurality of first
6 slots, each first slot being assigned to one of the plurality of first processes and configured
7 to store data to be transmitted or received by the assigned first process, the mark devices
8 being assigned to the first slots and being operable to indicate whether data can be written
9 or read from the first slots by the first processes; and

10 a plurality of executing servers to communicate with the Web servers, each
11 executing server having a second proxy, a second memory, a plurality of second
12 processes, and a plurality of mark devices, the second memory having a plurality of
13 second slots, each second slot being assigned to one of the plurality of second processes
14 and configured to store data to be transmitted or received by the assigned second process,
15 the mark devices being assigned to the second slots and being operable to indicate
16 whether data can be written or read from the second slots by the second processes,

17 wherein the first proxy and second proxy are configured to form a
18 communication link with the other.

1 10. A server in a communication system, comprising:
2 a proxy to provide a communication link with another node in the
3 communication system;
4 a plurality of processes running on the server;
5 a shared memory having a plurality of slots to store data to be transmitted
6 and received by the processes via the proxy; each slot being assigned to a particular one
7 of the process; and
8 a plurality of mark devices, at least one being assigned to each slot to
9 regulate data flow into and out of the slots of the shared memory.

1 11. The server of claim 10, wherein each of the slots includes:
2 an input space to store data transmitted by the process assigned to the slot;
3 and
4 an output space to store data to be received by the process assigned to the
5 slot.

1 12. The server of claim 11, wherein each of the input spaces is
2 assigned one of the mark devices which is used to indicate when the input space to which
3 the mark device is assigned is available to receive data, and each of the output spaces is
4 assigned one of the mark devices which is used to indicate when the output space to
5 which the mark device is assigned contains data to be transmitted.

1 13. A method for transferring data in a communication system having a
2 first client and a server, wherein the first client has a first proxy, a first shared memory,
3 and a plurality of first processes, and the server has a second proxy, a second shared
4 memory, and a plurality of second processes, the method comprising:
5 generating, within one of the first processes, a request to be transmitted to
6 one of the second processes;
7 storing the request into the first shared memory having a plurality of first
8 slots, wherein each of the first slots is assigned to one of the first processes and the
9 request is stored in the first slot assigned to the first process that generated the request;
10 transmitting the data stored in the first slot to the sever via the first proxy;

11 receiving the transmitted request via the second proxy that has a
12 communication link established with the first proxy;

13 storing the received request into the second shared memory having a
14 plurality of second slots, wherein each second slot is assigned to one of the second
15 processes and the received request is stored in the second slot that is assigned to the
16 second process to which the data is directed; and

17 reading the data stored in the second slot.

1 14. The method of claim 13, wherein the communication system
2 further includes a second client that is a client of the first client, wherein the request
3 transmitted to the server is generated in response to a request transmitted by the second
4 client to the first client.

1 15. The method of claim 14, wherein the first client is a Web server
2 and the second client is a browser.

1 16. The method of claim 13, wherein each of the first slots includes a
2 first input space and the request stored in the first slot is stored in the first input space of
3 that first slot.

1 17. The method of claim 16, wherein the first client further includes a
2 plurality of mark devices, each of the mark devices being assigned to one of the first input
3 spaces, the method further comprising:

4 changing the state of the mark device once the data is stored in the first
5 input space to indicate that the first input space contains data.

1 18. The method of claim 16, wherein each of the second slots includes
2 a second output space and the request stored in the second slot is stored in the second
3 output space of that second slot.

1 19. The method of claim 18, wherein the server further includes a
2 plurality of mark devices, each of the mark devices being assigned to one of the second
3 output spaces, the method further comprising:

4 changing the state of the mark device once the data is stored in the second
5 output space to indicate that the second output space contains data.

1 21. The method of claim 13, further comprising:
2 generating, within the second process which received the request, a reply
3 to the request;

9 receiving the transmitted the reply via the first proxy;
10 storing the received data into the first shared memory, wherein the
11 received data is stored in the first slot that is assigned to the first process that had
12 transmitted the request; and
13 reading the reply stored in the first slot.

1 22. A method of transmitting data in from a communication system
2 having a plurality of processes running thereon, the method comprising:
3 generating data using one of the processes running on the communication
4 system;
5 storing the data into a shared memory; and
6 transmitting the stored data to a destination node using a proxy provided in
7 the communication system.

1 23. The method of claim 22, wherein the communication system is
2 either a client or a server.

1 26. A method of handling data received in a communication system
2 having a plurality of processes running thereon, the method comprising:
3 receiving data from a source node via a proxy provided in the
4 communication system;
5 storing the received data into a shared memory; and
6 transmitting the stored data to the process to which the data is directed.

1 27. The method of claim 26, wherein the communication system is
2 either a client or a server.

1 28. The method of claim 26, wherein the shared memory has a
2 plurality of slots, each slot being assigned to one of the processes, wherein the data stored
3 in the shared memory is stored in the slot assigned the process to which the data is
4 directed.

1 29. The method of claim 28, wherein the communication system
2 includes a plurality of mark devices that are assigned to each of the slots to regulate the
3 data flow into and out of the slots.